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Sparks - Beginnings of Chicago - 1905

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THE BEGINNINGS OF CHICAGO

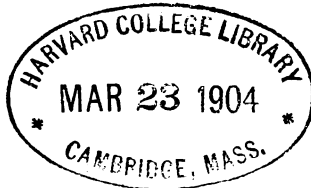
EDWIN ERLE SPARKS, Ph. D.

From Journal Western Society of Engineers



THE CHICAGO PLAIN

From the Relief Map of Siebenthal at the Academy of Science, by the
Courtesy of Mr. Baker, Curator.



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The Author.

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CLXXVI

THE BEGINNINGS OF CHICAGO

EDWIN ERLE SPARKS, PH. D.

*An Illustrated Lecture, delivered before the Western Society
of Engineers, May 2d, 1903.*

The city of Chicago owes its existence primarily to the river bearing that name and to the fact that the river empties into the head of the most southwesterly of the Great Lakes. The history of this city, because it is situated at the mouth of one waterway and the head of another, is similar to that of other inland cities. The waterways were the ready-made highways of the interior. Up and down them passed the explorer, the missionary, the trapper, the trader, and the pioneer farmer, tracing the way for future lines of commerce. At various obstructions along these ways—perhaps the head or mouth of a river, a portage, or a natural harbor—the products of adjacent regions were collected, to be forwarded in bulk to the Atlantic seaboard. The manufactures, which were sent in return, came to these inland points for distribution. Thus what had been in turn a camping ground for the Indian, a halting place for the explorer, a post for the trader, and a rendezvous for the pioneer, became a commercial center which grew to a city. The mouth of the Chicago river was marked by nature to serve such a purpose.

Extending in a crescent sweep about the head of Lake Michigan is a low flat plain not over fifteen miles wide, reaching from Winnetka on the north through La Grange on the west to Dyer, Indiana, on the south. Its concave side is occupied by Lake Michigan and its convex side is bounded by the great Valparaiso moraine. It was formed by the melting and retreat of the great ice cap which came down from the north in the Ice Age. At one stage the water was dammed up by the moraine, creating what is known to geologists as "Lake Chicago." At the bottom was deposited a flat plain of sand and clay which became dry land after the water had retreated to its present position

to become Lake Michigan. The northern part of the plain is drained by the Chicago River and its two branches, one coming from a northern and the other from a southwestern direction.

So flat is the Chicago plain that the south branch of the river rises less than twelve miles from the mouth. Beyond the head of this branch is the outlet through which the pre-historic "Lake Chicago" was drained into the Desplaines river. The summit of this divide, between the drainage basin of the Great Lakes and that of the Mississippi valley, is the old Chicago portage, unknown and unimportant in this railway age. Here the land is only fifteen feet above the level of Lake Michigan. If the lake level had been sixteen feet higher, it would have drained into the Mississippi. The slight elevation of the watershed suggested the possibility of the present Drainage Canal.

Upon the plain described above, the city of Chicago has been built. The ground is made up of boulders, sand, and clay—a mixture commonly known as "glacial drift." The excavation for a building in any part of the city will show the unstable character of the soil. Beneath it at varying depths lies the solid Niagara limestone which may be seen in the stone quarries in many localities just outside the limits of the plain. The bedrock is not level but has many undulations which cause the varying depths shown by borings in different parts of the city. The deepest point yet found is about one-half mile north of the junction of the two branches where the bedrock lies 124 feet below the level of Lake Michigan. The average depth is estimated to be about fifty feet. Because of the instability of the soil, few localities could have been found more unsuitable for building a city. But the demands of commerce have slight regard for topography or for good building sites. The most recent method employed by builders to overcome the inherent difficulties of the unstable plain is to sink caissons to the bedrock and fill them with concrete. We can thus imagine our great buildings standing upon gigantic stilts which rest upon the bedrock far beneath.

In such a soil and on such level ground, the river would naturally flow sluggishly and would cut a deep channel, carrying the washings to be deposited in a bar at the mouth. It would in this way form a natural harbor for lake commerce, extending two or three miles inland. However, the history of Chicago dates back to a time when a harbor for vessels of large burden was not dreamed of. It began during the days of the French missionaries, when the utility of a river as a highway was the important consideration, especially if there was only a short portage from its head to a stream flowing in the opposite direction. The Chicago river was almost ideal in this respect, since it led by its south

branch to the Chicago portage and thence into the Desplaines and the Illinois, being the connecting link between the Great Lakes and the Mississippi. Like all rivers in level countries, the sluggish waters of both streams allowed navigation far up toward the portage, especially in the rainy and melting seasons. It was possible, according to the accounts of the early explorers, to take a boat at certain times of the year over the Chicago portage without unloading it.

The French explorers and the Jesuit missionaries at first reached the Mississippi by Green Bay and the Wisconsin river. But they soon learned in returning to come up the Illinois to the Kankakee and thence to cross the portage to the St. Joseph river, now in Michigan, which empties into the southeast bend of Lake Michigan. At a later time they found the still shorter way by the Chicago river and portage. No satisfactory evidence has been left to show when this route was first used. Marquette and Joliet may have passed this way on their return journey from the Illinois Indians to the mission at Green Bay in 1673. La Salle and Tonty used the Chicago route before 1680. La Salle spent a part of the winter of 1682 in the first house built by white men at the portage. The following year he headed a report: "Du Portage de Checagou, 4 Juin, 1683." When the easy route by the "Garlic river," as the stream was sometimes called because of the foul-smelling wild plant growing on its banks, became fully



The Last of the French Fort Chartres,

Permanent French settlement, however, approached Illinois not by the Chicago portage, which the Jesuits and explorers had used, but came up the Mississippi after the founding of New Orleans. The French villages of Kaskaskia, Cahokia, and others which were founded in Illinois, soon fell into decay because of the advance of the conquering English and Americans. Even the stronghold of Fort Chartres, built to protect these villages, was torn down by the invaders to obtain building stone. Only the ruins of a powder magazine remain to show where the fort once stood.

After the French had been driven out of the Mississippi valley, the Chicago portage lay in obscurity for nearly forty years, until the onward march of the American people across the continent brought waterways and portages again into prominence. It was the policy of the United States government to plant forts along the front line of people to protect them and to increase the sales of the public lands. These forts were erected on the highways of commerce where protection was most needed. Among the sites occupied in the middle West may be named the point where the



Morse's Map (1796) Showing Reservations Made by Treaty of Greenville.

French Fort Duquesne and the English Fort Pitt once stood, now occupied by the city of Pittsburg; Fort McIntosh, where Beaver, Pennsylvania, now stands; Fort Harmer, at the mouth of the Muskingum; Fort Washington, at the mouth of the Miami, near which Cincinnati, Ohio, is now located; Fort Industry, at the

mouth of the Maumee, about which Toledo, Ohio, grew; Fort Renault, now Detroit; Fort Wayne, still bearing the name, and Fort Mackinac, which is now surrounded by Machinaw city.

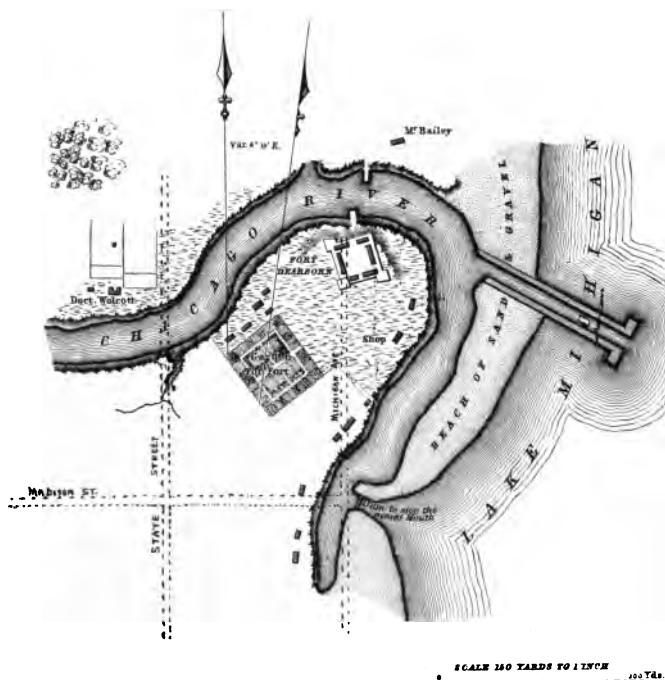
As the people advanced, the government was accustomed to quiet the Indian claims to the land by making treaties with the savages. By the treaty of Greenville in 1795, a line was drawn from east to west across what is now the state of Ohio and thence south to the Ohio river. Beyond this line the whites agreed not to make settlements, and the Indians agreed not to molest anyone living east of it. An exception was made to the first part of the bargain by the Indians giving to the United States certain reservations at important points where forts could be erected to protect traders. Among the sixteen reservations provided for by the treaty of Greenville was one for "a space six miles square at the mouth of the Chicago river where a fort formerly stood." This reference to a fort was no doubt to the traditional French fort erected in 1685 as an outpost to Fort St. Louis. It was probably nothing more than a barricaded hut.

By 1803, trade had increased along Lake Michigan to such an extent that the erection of a fort at some point on its shore was felt to be imperative. It is said that the mouth of the St. Joseph river was first contemplated; but there was no reservation at that point as demonstrated on the map made by Morse in 1796. Hence, Secretary of War Dearborn chose the reservation at the mouth of the Chicago river as a proper site. Fort Renault, at Detroit, had long been garrisoned by several companies of the First Infantry. One of these was selected to proceed to the Chicago river and to erect the proposed fort. Captain John Whistler, with some of his officers and the women, came around the lakes by boat to the mouth of the St. Joseph and thence crossed the lake by row-boat to the river. Lieutenant Swearingen marched the men by way of Fort Wayne.

One may faintly imagine the appearance of the mouth of the river when these troops arrived in August, 1803. Scrub oaks dotted the sandy shores, replaced by trees of a larger growth out toward the fertile prairies on the westward. The river flowed sluggish and silent between low-lying, sedgy banks. Evidences of Indian encampments and huts of traders could be seen on all sides. Indeed, the soldiers found a French trader, Le Mai, living in a small cabin near the mouth of the river. Near by dwelt Ouilmette (Wilmette), a half-breed Indian. Before the snows of winter covered the drifting sands, the soldiers and artificers had constructed two blockhouses, quarters for the officers and barracks for the privates, and had surrounded the whole by a high connecting stockade with a second lower palisade outside.

A subway was dug through the sand to the river to supply the fort with water in case of a siege. Near the fort was built the log house or "factory," as such adjuncts to forts were called, where the government trader exchanged his stores for skins brought in by the savages and private traders.

Not only were the general surroundings of the mouth of the river different from those of the present day. The river itself has been so changed in its course that a map is necessary to show it as the troops found it. A sand bar had accumulated across the mouth, possibly caused by that mysterious current in Lake Michigan which deposits bars on the north side of obstructions on the west shore. The bar had pushed the mouth as far south as the



Mouth of the Chicago River in 1830 with Proposed Improvements.

Madison street of the present city. This is well illustrated on a government map issued when the first proposition to convert the river into a harbor was being considered by Congress. In the bend of the stream the fort was located. The drifting sand had made a kind of hillock or high ground at this point.

Between 1803 and 1812, the history of Fort Dearborn, as the fort gradually became known through compliment to the Secretary of War who established it, is almost a blank. There was al-

ways one company stationed here, but it must have been a dreary and monotonous life on the sands along the shore. From time to time, the "factor" made his report to the government, showing a prosperous trade. A few houses were built near the fort, that of Mr. Kinzie, just across the river, being the most prominent. The poplar trees in front of his house figure in all early sketches of Fort Dearborn, looking northward.

The year 1812 found the entire Northwest alarmed over the Indian rising under Tecumseh. Burning cabin and scalped settler warned the whites to fly to the nearest fort. Even the safety of Fort Dearborn was questioned, lying so far in the Indian country. Orders were given to the commandant to evacuate and retreat to Fort Wayne if he deemed it best to do so. Attempting to carry



The Fort Dearborn Massacre Monument—1812.

out these orders, the body of troops and settlers was attacked by the Indians near the present foot of Eighteenth street. Twenty-six of the fifty-four regulars were killed, together with twelve militiamen, two women and twelve children. Five more regulars, it is said, were put to death after surrender. The prisoners were then distributed among the various tribes for service. Eventually nearly all were ransomed or made their escape. For many years

a tree known as the "massacre tree" stood near the lake and presumably near the scene of the attack on the women in the wagons. It has been replaced by a spirited group in bronze representing the rescue of Mrs. Helm by a friendly Indian, Black Partridge.

At the close of the war of 1812, the fort was rebuilt on the same site, but of different design. One block house was now felt to be sufficient. Settlers and traders gradually reoccupied their old quarters. The fearful experience of the massacre was never repeated. So peaceful were the savages that in 1823 the troops were withdrawn from Fort Dearborn to garrison posts farther west. However, in 1828, owing to the uneasiness of the Winnebago Indians, a company of regulars came up from St. Louis to reoccupy the old fort. The commanding officer was annoyed to find that the sand bar across the mouth of the river prevented him getting his supply boats into a place of safety from the storms on the treacherous lake front. He employed his men in digging a temporary channel through the bar—a prophecy of the later



1823.—Wolf's Point, Junction of the Two Branches of the Chicago River.—1903.

Chicago harbor; but the currents soon filled it up after the troops were withdrawn.

In 1832, the Black Hawk war brought Gen. Scott and a large body of troops to rendezvous at the deserted Fort Dearborn. Once more the attention of Congress was called to the fact that

vessels on Lake Michigan could not approach a fort which had been built to protect that body of water. Shipping must lie in the offing and discharge their cargoes by lighters. Various reports from engineers connected with the troops stationed at the fort had called attention to the same obstacle and also to the ease with which the mouth of the river might be converted into a harbor. It needed only two parallel piers out into the lake and dredging between them. No other point in the vicinity offered such possibilities. The value of the property destroyed in one season by the storms on that portion of the lake, it was declared, would go far toward making a harbor. Frequently auctions were held to dispose of the cargo, of unlucky vessels caught on the unprotected shore.

Such arguments brought from Congress in 1833 the first appropriation for straightening, deepening, and widening the Chicago river and converting it into a magnificent harbor. These appropriations were small at first, aggregating only \$486,000 in nearly forty years; but were increased from time to time with the increased demands of trade until they have now passed the four million dollar point for the Chicago river and harbor alone. It is interesting to note that almost contemporaneous with the first appropriation, an enterprising trader killed and packed meat for shipment to Detroit instead of sending the cattle and hogs on foot, as had been the practice. About the same time, small elevators began to appear on the banks of the river. Grain was hauled to them in wagons from the prairies and lifted by rope and bucket to the top of the building, to run through chutes on the other side to the hold of a waiting vessel.

Fort Dearborn, near the mouth of the stream, formed one of the centers of growth of the embryo city; the junction of the two branches, commonly known as "Wolf's Point," became another. A sketch made at the latter place in 1832 shows on the left the Wentworth tavern or trading house, and on the right the Miller house, which was also used as tavern and residence. Between them ran a log bridge across the north branch of the river. Only by comparing the scene with a modern photograph taken from the same standpoint is the change in the river and surroundings appreciable. Passing down the main stream to the right, one reaches a point on the bank opposite to that once occupied by the old fort and beholds a similar transformation. Where the rope ferry was once poled across the river, a great bridge now swings noiselessly to allow magnificent vessels to pass to docks beyond. Wharves line the shore where rushes formerly flourished in the swampy margins. The sand between the fort and the river has been dredged away to allow great floating hotels to lie at dock

and await the coming of passengers. A large part of the site of the old fort is now under the Chicago river.

The lake traffic, which gave the first impetus to modern Chicago, increased enormously between 1830 and 1870. The appearance of steam vessels and the harbor improvements were largely responsible for this growth. The exact time of the coming of the first steamer is in dispute, although it must have been near 1830. At the end of 1836, it was recorded that 212 vessels had been able to get inside the river. In 1854, there were forty-six vessels plying regularly between Chicago and other ports. In 1871, more than twelve thousand vessels entered and cleared from the Chicago harbor.



The Past and Present of Fort Dearborn.

About 1830 railways, instead of canals, were advocated in the United States to connect navigable waterways. Few imagined that the railways could ever supplant the canals. A railway from the head of Lake Michigan to the Mississippi or even to the Rock river was for many years a Chicago vision. By 1848, it had been realized to some extent. The problem of conveying lead from the mines at Galena to the lake caused that city to be made the proposed western terminus. The locomotive "Pioneer," now

preserved in the Field Columbian Museum, was brought to Chicago by steamer and was put to work on the few miles of strap iron laid on stringers placed end to end on piling driven into the wet prairie between the Chicago and the Desplaines rivers. This was the Galena & Chicago Union Railway, whose frame passenger station stood for many years just west of and across the North Branch from the present Northwestern station on Wells street.

By the middle of the century, the rival railways between Lake Erie and Lake Michigan, the one constructed through "Central" Michigan and the other through "Southern" Michigan, rounded the head of the lake and came into the city simultaneously. The Michigan Central and the Illinois Central came along the lake front on piling driven into the water, which carried them as far north as the foot of the present Randolph street. Between this piling and the beach, now Michigan Avenue, pleasure boats were sailed and rowed, giving the people of Chicago the use of a lake front which they have not since known. The railroads soon began to fill in the lake front, compelling the public to go beyond them in a park made by artificial means. Michigan avenue, formerly the beach of the lake, is now far inland, and the mouth of the river at the foot of Madison street exists only in tradition. Terminal yards and tall buildings occupy that part of the former site of Fort Dearborn which has not been dredged away in straightening the river. The old mouth is now a part of the new Lake Front park.

After the final evacuation of the fort, the property was put in the care of the engineer in charge of the river improvements. The reservation of six miles square made by the treaty of Greenville was a transaction with the Indians and was distinct from the United States reservation for the fort. The latter, amounting to about seventy-five acres, lay in the shape of a triangle having its apex at the fort. The base line crossed diagonally from the river near the foot of Dearborn street to the lake shore near the foot of Madison street. Under the law of 1819, which gave permission to the Secretary of War to dispose of military sites no longer needed, that official yielded to petitions from the citizens of Chicago and in 1839 divided the reservation into town lots to be sold at auction. Certain portions were reserved for public use. One of these became Dearborn park and is now occupied by the Chicago Public Library.

The fort reservation will account for only a small portion of the land occupied by the city of Chicago. The remainder of the site, lying along the river and both branches, was included in the 290,000 acres of land given by the national government to con-

struct a canal over the Chicago-Desplaines portage. The streets, much as they are to-day, were laid off at right angles to each other across this proposed town site and the lots were sold at auction in 1830 for the benefit of the canal fund. Certain reservations were made for school purposes as well as a square for a court house. The latter ground is now occupied by the county and city buildings. At the sale, the lots along the south branch near the junction brought the highest price. The average price of all the lots was about three hundred dollars. The site of the present Sherman House brought forty dollars.

Much of the ill repute of Chicago in early days can be traced to the topography of the city. Water would not drain naturally from the low plain on which it was built. Cellars were almost impossible. Deluded purchasers found their lots under water.



Raising the Grade of Chicago—About 1857. (From an old painting owned by Chicago Historical Society.)

Between 1855 and 1860, the grade of the entire city was raised, in some places more than ten feet. An old painting in the Chicago Historical Society's building shows the comical appearance presented by the city during this period of elevation. Entire rows of buildings rested temporarily upon blocks and jack-screws. Pavements were on different levels. The conditions of things must have conduced to sobriety since the late return home of the typical club man would have been an impossibility. The streets were filled to the new level and macadamized, instead of remaining paved with the old warped planks, which bespattered the pedestrian when a vehicle chanced to pass.

About this time, the little court house, which had done service since 1837 in the public square on the corner of Washington and

Clark streets, was replaced by a two-story stone building, to which was added a third story in due time. A lawn both at the front and back of the building afforded space for public meetings. The leading statesmen of the day graced the rostrum of the old court house steps.

The beginnings of Chicago may well close with her re-baptism in the fire of 1871. Without this blessing in disguise, it would have taken years to clean out the unsightly buildings due to the growth of the city from a frontier post. The easiest way to be rid of having to wear the clothing which one has outgrown is to burn it. Wooden pavements and frame buildings are stages of development. Chicago was done with both in the business district at one direful stroke. Only those who passed through the



1823—The Mouth of the Chicago River—1903

experience of the fire know its horrors. Only those who study a map of the "burned district" realize the space which it swept over.

The chief problem the Chicago of today must deal with is the river. How to provide for inter-urban movement with water traffic across the principal streets has claimed the attention of engineers and experts. Few other cities face the same problem. Generally the river or harbor is to be found at one side of the city proper, or it is not so long and narrow as the one which penetrates into the very heart of Chicago. How essential the river was to the founding and the growth of the city it has been

the endeavor of the foregoing pages to show. Without the river, there never would have been a Chicago. Can the prosperity of the city continue without the free use of the river for commerce? We have tried nearly every conceivable manner of crossing that stream and yet not interfering with traffic. We have crawled under it in tunnels. We have gone around it in belt lines. We have made bridges that turn, that open, that lift, that slide—anything to reconcile land and water traffic.

The history of Chicago falls naturally into three periods. The French occupancy two hundred years ago, interesting though it is, has no real connection with the modern city. The second stage, that of Fort Dearborn and the troops, which covered nearly thirty years, is only remotely connected with the modern commercial center. Industrial Chicago began with the opening of the harbor in 1833. Yet the building of the fort marked the beginning of continuous government under the United States. The stars and stripes, once raised on the staff near the middle of the fort, have floated over the city to this day. The protecting hand of the United States government, represented in the troops a century ago, in the land given for digging the old canal, and in the appropriations for the improvement of the harbor, has never been withdrawn. Counting the building of the fort as the real beginning of Chicago, the centennial will occur in 1903, to be appropriately celebrated during the last week in September.

No city in the United States can excel Chicago in the picturesqueness of her past. No city has had such a succession of varied and striking types. Above her busy streets and lofty buildings pass in historic shade the Jesuit, the trapper, the trader, the pioneer, the soldier, the land speculator, the promoter—each contributing his unconscious part to the making of an American city. The canal, which Joliet wished to cut across the Chicago portage but to which La Salle objected because the stage of water would make it serviceable during only a small portion of the year, was realized nearly two centuries later by the Illinois and Michigan canal. It has now been practically abandoned and superseded by a parallel artificial waterway designed for a ship canal.

That this service will ever be rendered by the Drainage Canal is unlikely because three great trans-continental lines of railways traverse the length of the portage. An electric trolley has been added as if to make a prophecy of the future. Where the Jesuit and his *donnes* once dragged their sledges by head bands and straps, where the *coureur du bois* tied his bright-colored sash about his embroidered hunting shirt and set afresh his pudding-bag cap before bending to the burden of his boat, giant locomotives now drag mile-long freight trains or whirl portable hotels over the old Chicago portage.

Some day when all this is materialized on a commemorative column or historic arch, when it stands in enduring pageantry on a memorial bridge, Chicago will mean more to one class of its citizens than a place to make a fortune and to another than a place of securing daily bread. Civic as well as national pride rests most securely on veneration for the past.



CLXXVII.

THE BORINGS FOR THE BOHIO DAM FOR THE PANAMA CANAL.

By R. C. SMITH, M. W. S. E.

Read April 29, 1903.

In making the borings to determine the best location for the dam which is to maintain the summit level of the Atlantic end of the Panama Canal, some rather difficult work was encountered. The results obtained are of vital importance to those having in charge the design of the dam, showing as they do a much more unfavorable site for a high dam than the data secured by the French engineers seemed to indicate.

At this time when the different phases of the Panama Canal, and the difficulties in the way of its construction are being so generally studied and discussed, a brief description of the method of making these borings, the difficulties encountered, and the results obtained may be of some particular interest.

The plans for a Panama Canal with locks, both by the French engineers and later by the Isthmian Canal Commission appointed by the United States government, call for a high dam about fourteen miles from the Atlantic terminus to maintain the summit level of the canal. Several factors combine to locate this dam at, or just above the village of Bohio:

First, the valley of the Chagres river becomes very narrow for several hundred feet of its course in this vicinity. The hills which enclose the valley approach to within 1300 feet of each other at their 100-foot contours and being of rock formation furnish ideal abutments for a dam.

Second, an ideal site for a spillway exists two miles west of this place, where there is a ridge about seventy feet in height above sea level, separating the waters of the Gigante river, a tributary of the Chagres, from the waters of the latter as it passes into the swamp regions below Bohio.

Third, the lower down the valley the dam is located the greater will be the area of the artificial lake formed.

Fourth, in the investigations carried on by the French, no suitable site for the dam has been found above this section of the Chagres valley.

The French engineers, after digging six or eight test pits on the

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The beginnings of Chicago.
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